

Applicant: Peter BOEHLAND et al.
Docket No. R.305594
Preliminary Amdt.

AMENDMENTS TO THE SPECIFICATION:

Page 1, please add the following new paragraphs before paragraph [0001]:

[0000.2] CROSS REFERENCE TO RELATED APPLICATIONS

[0000.4] This application is a 35 USC 371 application of PCT/DE 2004/001201 filed
on June 9, 2004.

[0000.6] BACKGROUND OF THE INVENTION

Please replace paragraph [0001] with the following amended paragraph:

[0001] ~~Prior Art~~ **Field of the Invention**

Please replace paragraph [0002] with the following amended paragraph:

[0002] The invention relates ~~first of all~~ to a fuel injection device for an internal combustion engine, having at least two valve elements, each of which has a hydraulic control surface acting in the closing direction that is associated with a hydraulic control chamber, having a control valve that influences the pressure in the control chamber, and having loading devices that are able to act on the valve elements in the opening direction, in which the valve elements react at different hydraulic opening pressures prevailing in the control chamber, **and to a method for operating a fuel injection device of this kind.**

Please add the following new paragraph after paragraph [0002]:

[0002.5] Description of the Prior Art

Please delete paragraph [0003].

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Page 2, please replace paragraph [0008] with the following amended paragraph:

[0008] The object of the present invention is to modify a fuel injection device of the type mentioned at the beginning so that it can be triggered in as simple a fashion as possible and nevertheless functions reliably. At the same time, its use should enable a good emissions and fuel consumption behavior of the associated internal combustion engine. A further object of the present invention is to ~~modify~~ **provide** a method **of operation of a valve** of the type mentioned at the beginning so that even if only one valve element is to be actuated, this occurs as needed in the fastest possible way.

Page 3, please replace paragraph [0009] with the following amended paragraph:

[0009] The first object mentioned above is attained in a fuel injection device of ~~the~~ **this** type ~~mentioned at the beginning~~ in that the control valve is able to set at least three different pressure levels in the control chamber: all of the valve elements are closed at a comparatively high pressure level; one valve element is open at a medium pressure level; and all of the valve elements are open at a comparatively low pressure level.

Please replace paragraph [0010] with the following amended paragraph:

[0010] The second object mentioned above is attained in a method of ~~the type mentioned~~ **operation of** the ~~beginning~~ **valve** by virtue of the fact that in a fuel injection device of ~~the~~ **this** type ~~mentioned above~~, in order to open only one valve element, the control chamber is first connected to a low-pressure connection and then, is simultaneously connected to the low-pressure connection and a high-pressure connection.

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Please replace paragraph [0011] with the following amended paragraph:

[0011] ~~Advantages of the Invention~~

SUMMARY AND ADVANTAGES OF THE INVENTION

Page 4, please delete paragraph [0014].

Please replace paragraph [0015] with the following amended paragraph:

[0015] **Advantageous modifications of the invention are disclosed.** According to a first modification, the control chamber is connected to a high-pressure connection via an inlet throttle and the control valve is connected to the control chamber on the one hand and to a low-pressure connection on the other. In a fuel injection device of this kind, the fuel injection can be completely controlled by means of a simple control valve and only two pressure connections, namely a high-pressure connection and a low-pressure connection. This embodiment is therefore inexpensive and functions reliably.

Page 9, please replace paragraph [0030] with the following amended paragraph:

[0030] ~~Drawings~~ **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0031] with the following amended paragraph:

[0031] Particularly preferable exemplary embodiments of the present invention will be explained in detail below, in conjunction with the accompanying drawings-, **in which:**

Page 11, please replace paragraph [0047] with the following amended paragraph:

[0047] ~~Description of the Exemplary Embodiments~~

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Page 21, please replace paragraph [0075] with the following amended paragraph:

[0075] Furthermore, in the fuel injection device 10 shown in Fig. 13, the switching element 70 is not coupled to the piezoelectric actuator 80 directly, but by means of a hydraulic booster 104. This booster has a booster chamber 106 into which a cylindrical booster element 108 protrudes on one side, which is connected to the switching element 70 by means of the actuating rod 78. A boosting body 110 coupled to the piezoelectric actuator 80 likewise protrudes into the booster chamber 106. The diameter of the boosting body 110 is greater than that of the booster element ~~109~~ **108**.

Page 23, please replace paragraph [0080] with the following amended paragraph:

[0080] Fig. 14 shows a further modified embodiment form. The differences relate to the end regions of the valve elements 16 and 18. It is clear from the drawing that the inner valve element 16 is provided with an annular collar 124 that is positioned in a recess 126 in the end region of the outer valve element ~~118~~ **18**. In the neutral position when both of the valve elements 16 and 18 are closed, the axial end surfaces of the recess 126 are spaced slightly apart from the annular collar.

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Page 24, please add the following new paragraph after paragraph [0083]:

[0084] The foregoing relates to a preferred exemplary embodiment of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.